

***Pucciniastrum actinidiae* on *Actinidia* spp.**

Pucciniastrum actinidiae is a rust fungus of quarantine significance for the United States. Several species of *Actinidia* especially *A. deliciosa* (A. Chev.) C. F. Liang & A. R. Ferguson (kiwi or Chinese gooseberry) have economical value because of their edible fruits. They are extensively cultivated in Asia and Oceania. The rust has been reported from eastern Asia.

Pucciniastrum actinidiae Hirats.f., Mem. Tottori Agric. Coll. 4:279. 1936 (based on uredinia).

Spermogonia and **aecia** unknown.

Uredinia hypophyllous, scattered or grouped on yellow or yellowish brown, discolored areas, sometimes thickly scattered over whole surface of leaf, round, minute, 0.08-0.2 mm across, subepidermal, dehiscent by central pore, pale yellowish; peridia hemispherical, delicate, sub-hyaline; peridial cells minute, irregularly polygonal, 7-14 µm across, walls smooth, thin; ostiolar cells ellipsoid or oblong, 12-16 × 7-12 µm, walls smooth, hyaline to subhyaline; **urediniospores** obovate, ellipsoid or oblong, 18-27 × 12-16 µm, walls 1.5-2 µm thick, minutely echinulate, subhyaline, germ pores 7-10, mostly scattered and obscure.

Telia mostly hypophyllous, subepidermal, in dense clusters, limited by veins, often spread over whole surface of leaf, yellowish brown to brown; **teliospores** intercellular, subglobose, oblong or cuneiform, laterally adherent, divided by 2-8 (mostly 4) vertical or oblique septa, 20-30 µm high, 17-18 µm across, walls uniformly thin, smooth, pale yellow.

Hosts: Species of *Actinidia* (Actinidiaceae).

Geographic distribution: China, Japan, and Taiwan.

Pucciniastrum actinidiae is the only rust fungus described on species of *Actinidia*. Two other rusts fungi are described on hosts belonging to the family Actinidiaceae: *Puccinia hiascens* Arthur on species of *Saurauia* from Guatemala, and *Puccinia vergrandis* Arthur & Holw. also on *Saurauia* from Guatemala. Both rust fungi lack uredinia, and produce hypophyllous telia that are subepidermal becoming erumpent, with one septate teliospores. *Pucciniastrum actinidiae* produces mostly hypophyllous, subepidermal, crust-like telia composed of laterally adherent teliospores that are 2-8 septate and produce uredinia as described above.

Pucciniastrum actinidiae Hirats. f. 1936 was described based on uredinial stage. The same author (Hiratsuka 1952) later added a description of the telial stage.

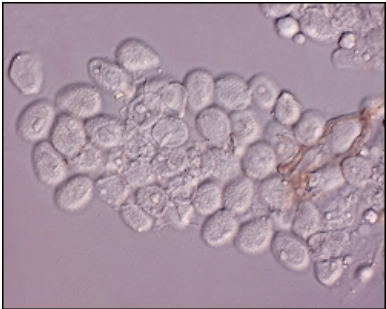
References:

- Hiratsuka, N. 1936. A Monograph of the Pucciniastreae. Mem. Tottori Agric. Coll. 4: 1-374.
Hiratsuka, N. 1952. Materials of a rust-flora of Eastern Asia. J. Jap. Bot. 27: 111-116.
Hiratsuka, N., Sato, S., Katsuya, K., Kakishima, M., Hiratsuka, Y., Kaneko, S., Ono, Y., Sato, T., Harada, Y., Hiratsuka, T., and Nakayama, K. 1992. The rust flora of Japan. Tsukuba Shuppankai, Takezono, Ibaraki, 1205 pages.

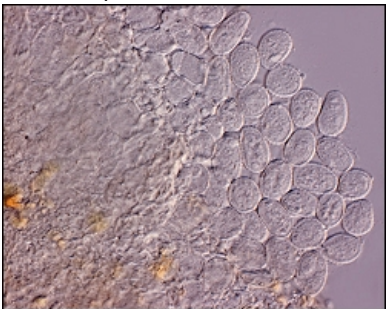
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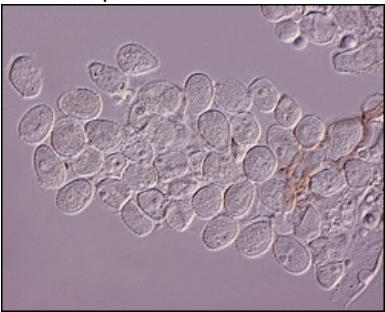
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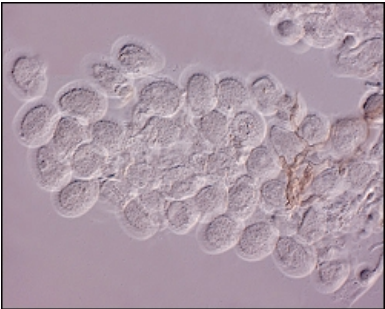
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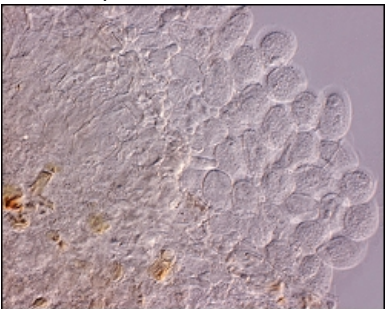
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